

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052589 A1

(51) International Patent Classification⁷: G01N 33/68,
33/94, C12Q 1/32

(74) Agents: GITTO, Serena et al.; Ing. Barzano' & Zanardo Roma S.p.A, Via Piemonte, 26, I-00187 Roma (IT).

(21) International Application Number:
PCT/IT2004/000658

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
26 November 2004 (26.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
RM2003A000556
28 November 2003 (28.11.2003) IT

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): UNIVERSITA' DEGLI STUDI DI ROMA "TOR VERGATA" [IT/IT]; Via Orazio Raimondo, 18, I-00173 Roma (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): RICCI, Giorgio [IT/IT]; Universita' degli Studi di Roma "Tor Vergata", Via Orazio Raimondo, 18, I-00173 Roma (IT). RICCI, Francesco [IT/IT]; Universita' degli Studi di Roma "Tor Vergata", Via Orazio Raimondo, 18, I-00173 Roma (IT). FEDERICI, Giorgio [IT/IT]; Universita' degli Studi di Roma "Tor Vergata", Via Orazio Raimondo, 18, I-00173 Roma (IT).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/052589 A1

(54) Title: METHOD FOR QUANTITATIVE AND SEMI-QUANTITATIVE DETECTION OF L-PHENYLALANINE, L-TYROSINE, L-3, 4-DIHYDROXYPHENYLALANINE AND THEIR CORRESPONDING KETO-ACIDS

(57) Abstract: Method for quantitative and semi-quantitative determination of endogenous amino acids L-phenylalanine, L-tyrosine, L-3, 4-dihydroxyphenylalanine and their corresponding keto-acids, phenylpiruvic acid, 3-hydroxyphenylpyruvic acid and 3, 4-dihydroxyphenylpyruvic acid in biological fluids useful for diagnosis and monitoring of metabolic disorders of said amino acids or diseases involving said amino acids, comprising: a) reaction of phenylpiruvic acid, 3-hydroxyphenylpyruvic acid and 3, 4-dihydroxyphenylpyruvic acid, present as such in biological fluids or coming from the parent endogenous amino acids L-phenylalanine, L-tyrosine, L-3, 4-dihydroxyphenylalanine by deamination, with an organic salt of phenazine derivatives in the presence of at least one alkaline buffer to give colored charge transfer complexes; b) measurement of the absorbance values due to said charge transfer complexes in the wavelength range from 650 to 690 nm and quantification of the keto acids or amino acids concentrations in biological fluids.